

CLAIMS

1. A pneumatic tire comprising a tread portion provided with circumferential grooves, main oblique grooves and auxiliary oblique grooves,

the circumferential grooves including a pair of axially outer grooves disposed one on each side of the tire equator and at least one axially inner groove between the axially outer grooves, so as to divide the tread portion into at least four circumferential regions including a pair of axially inner regions between the axially outer grooves and said at least one axially inner groove and a pair of axially outer regions axially outside the axially outer grooves,

the main oblique grooves each extending across one of the axially inner regions so that the axially outer end is connected with the adjacent axially outer circumferential groove and the axially inner end is connected with the adjacent axially inner groove,

the auxiliary oblique grooves arranged alternately with the main oblique grooves in the circumferential direction of the tire, and each extending from the adjacent axially outer circumferential groove to one of the axially adjacent main oblique grooves,

the axially inner regions each having an axial width $L1$ of from 0.15 to 0.25 times the critical tread width $TW1$, and

the main oblique grooves each having an inclination angle $\theta 1$ of from 45 to 90 degrees at the axially outer end thereof, and an inclination angle $\theta 2$ at the axially inner end thereof which is less than the inclination angle $\theta 1$, when measured with respect to the tire circumferential direction.

2. The pneumatic tire according to claim 1, wherein
the auxiliary oblique grooves each have a narrower middle
part extending along the adjacent main oblique grooves.
3. The pneumatic tire according to claim 1 or 2, wherein
the connecting point at the inner end of each said
auxiliary oblique groove with the main oblique groove is axially
outwardly spaced apart from the axially inner circumferential
groove by a distance of from 20 to 70 % of the axial width L1 of
the axially inner region.
4. The pneumatic tire according to claim 1, 2 or 3, wherein
each said main oblique groove is provided in an axially
inner end portion thereof with a shallow part which is shallower
than the outer end thereof, and the length of the shallow part is
in a range of from 15 to 30 % of the length of the main oblique
groove.
5. The pneumatic tire according to claim 1, 2, 3 or 4,
wherein
the axially outer regions are each provided with oblique
shoulder grooves and auxiliary shoulder grooves which are
alternately arranged in the tire circumferential direction,
said oblique shoulder grooves extend axially outwardly
from one of the axially outer circumferential grooves,
while aligning their axially inner ends with the axially outer
ends of the main oblique grooves,
to or beyond the axial position of a critical tread edge (e1),
and

said auxiliary shoulder grooves extend axially outwardly from said one of the axially outer circumferential grooves, while aligning their axially inner ends with the axially outer ends of the auxiliary oblique grooves, to an axial position before said critical tread edge (e1).

6. The pneumatic tire according to claim 5, wherein the auxiliary shoulder grooves are inclined to the same direction as the oblique shoulder grooves.

7. The pneumatic tire according to claim 5, wherein the auxiliary shoulder grooves are inclined oppositely to the oblique shoulder grooves.

8 The pneumatic tire according to claim 5, wherein the tread portion is provided with an unidirectional tread pattern, and the main oblique grooves have heel-side edges chamfered and toe-side edges not chamfered.

9. The pneumatic tire according to claim 5, wherein the tread portion is provided with an unidirectional tread pattern, and the oblique shoulder grooves have heel-side edges chamfered and toe-side edges not chamfered.

10. The pneumatic tire according to claim 5, wherein the tread portion is provided with an unidirectional tread pattern, and

the auxiliary shoulder grooves have heel-side edges chamfered and toe-side edges not chamfered.

11. The pneumatic tire according to claim 1, wherein the circumferential grooves have axially inner chamfered and axially outer edges not chamfered.